



(11) **EP 1 157 644 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
28.11.2001 Bulletin 2001/48

(51) Int Cl.7: **A47G 25/44**, A47G 25/48

(21) Application number: **01304430.0**

(22) Date of filing: **18.05.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR
 Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **The designation of the inventor has not yet been filed**

(74) Representative: **Baillie, Iain Cameron**
Langner Parry,
52-54 High Holborn
London WC1V 6RR (GB)

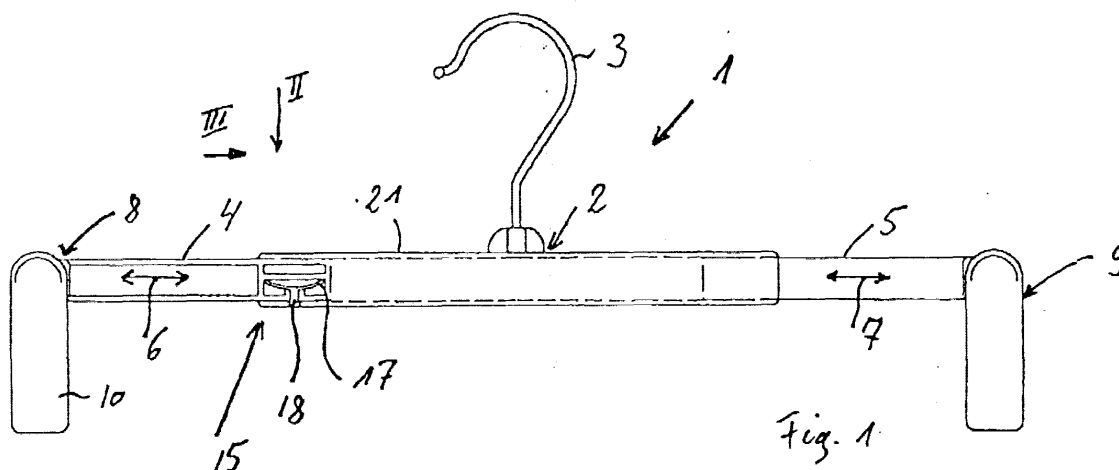
(30) Priority: **23.05.2000 DE 20009117 U**

(71) Applicant: **Braitrim Deutschland GmbH**
32657 Lemgo (DE)

(54) **Clothes hanger**

(57) A clothes hanger (1) including a central suspension device (2), two arms (4,5) carried by and movable

with respect to the central suspension device (2) and garment retaining clips (8,9) carried by the arms (4,5). The arms (4,5) are movable in a lengthwise direction.



Description

[0001] The invention concerns a clothes hanger with a central suspension device and with two clips, arranged on arms, displaceable in respect of the central suspension device, with two jaws respectively, clamping against each other using spring force, which jaws can be opened by pressing two lever-type regions together.

[0002] Clothes hangers are known which are made in one piece with the central suspension device, having two arms which extend principally in the horizontal direction. Displaceable clips are arranged on these arms, which are suitable for hanging skirts, sheets of cloth or similar items in that the two jaws are held together in a clamping action, holding the piece of clothing between them. To open, the jaws can be swivelled around an axis, which is normally within the arm, in that two lever-type regions of the clip above the arm are squeezed together.

[0003] Clothes hangers of this type can be utilised effectively for a wide range of uses in the private sector and for presentation purposes. However, when transporting clothing hung on clothes hangers of this type, especially where high speed mechanised transportation in industrial systems is involved, for example in manufacturing, cleaning or similar processes, these hangers are not without problems. Firstly, if the clips are displaced, this can lead to an unsymmetrical weight loading in such a way that the clothes hanger is suspended at an angle. The lever-type regions, which usually have a V-shape in a face view, project so far in front of the clothes hanger, that they often hook into the adjacent hanger. The free end of the arm, which projects beyond the remainder of the clothes hanger when the clips are pushed as far inwards as possible, must also be considered a disadvantage. These free ends can hook into adjacent clothes hangers, which can lead to difficulties in transportation or even to damage to the clothing being transported.

[0004] Against this technical background, the purpose of the invention is to make a clothes hanger available, which permits maximum safety during transportation, especially mechanised transportation.

[0005] This group of technical problems is solved by the clothes hanger according to the invention, wherein according to claim 1 it is emphasised that each clip is permanently connected to the arm and that the arm can move lengthwise in the central suspension device. These technical measures according to the invention achieve a number of advantages. Thus, for example, the arm having a free end is avoided, because the clip will be regularly fitted to the end side of an arm of this type. However, the hanger can still be adjusted to different sizes of clothing in that namely each arm with the relevant clip can be displaced in respect of the central suspension device, for example according to the principle of known tensioning clamps, whereby, of course, a spring applying the clamping force is not present here.

[0006] Rather, it is preferred that at least one position in which the arms are used can be preset. A lock of this type prevents unintentional displacement in contrast to a sliding connection between the clips and an arm according to the prior art which is based purely on friction-locking. The intention here is fixing by means of an engaging and/or clamping device in particular. Engaging and clamping devices of this type are well known to the technical expert in principle.

[0007] A preferred embodiment envisages that one arm, one jaw and one lever-type region respectively take the form of one single component. The jaw and lever-type region can be designed as one piece and placed on the arm or, as preferred, the arm, jaw and lever-type region can be manufactured, for example, as one single injection-moulded plastic component.

[0008] The embodiment of the design provides for one arm with a jaw designed as a single component being arranged within the profile held by the central suspension device. As a consequence of this measure, when the clothes hanger is viewed face on, the jaw does not project ahead of the central suspension device at the side and as a consequence of this measure cannot easily become hooked into adjacent items of clothing, clothes hangers or other obstacles. This advantage is increased even further by at least some parts of the lever-type region preferably being arranged inside the central suspension device. However, it should be noted here that the two lever-type regions have to be open in an approximately V-shape over the axis of rotation of the clamping jaws, so that these can be opened by pressing the lever-type regions together.

[0009] A further preferred embodiment provides for an axis of rotation of the clamping jaws being arranged under the arm. As a consequence of this measure it is also possible for the lever-type region to be substantially flush with the upper side of the arms and/or the central suspension device. This measure also avoids individual components projecting from the clothes hanger in such a way that they can hook into adjacent clothes hangers or cause damage to adjacent items of clothing.

[0010] It is also possible to provide for an axis of rotation of the clamping jaws to be arranged substantially within a plane held by one side surface of the central suspension device. As a consequence of this measure, only one half of the clip as a whole, namely one clamping jaw and one lever-like region with the axis of rotation and/or axis mounting arranged in between, projects sideways from the profile held by the central suspension device.

[0011] A further embodiment of the design provides for the two lever-type regions of a clip being rounded towards the free end in a top view. It is true that the V-shaped aperture which is present in a face view cannot be closed in the arrangement of the two lever-like regions because these have to be pressed together, however this measure according to the invention does provide a further reduction in the risk of the clothes hangers

becoming hooked.

[0012] The invention is explained in greater detail using the drawings in which only examples of embodiments are shown, some as sections. The drawings show:

Figure 1: A clothes hanger according to the invention in a side view

Figure 2: The clothes hanger according to figure 1 in a top view as indicated by the arrow II in figure 1

Figure 3: A face view of the clothes hanger according to figure 1 as indicated by the arrow III in figure 1

Figure 4: A second example of an embodiment of a clothes hanger according to the invention in a side view

Figure 5: The top view of the clothes hanger according to the invention as indicated by the arrow V in figure 4

Figure 6: A face view as indicated by the arrow VI in figure 4

Figure 7: The clothes hanger according to figure 4 with the arms retracted and

Figure 8: The clothes hanger in a top view as indicated by the arrow VIII in figure 7.

[0013] The clothes hanger 1 shown in figures 1 to 3 has a central suspension device 2 with hook 3. Two arms 4, 5 are guided horizontally within the central suspension device, so that they can move, as shown by the double arrows 6, 7. The arms 4, 5, may have a U-shaped or H-shaped profile in the conventional way. The arms 4, 5 have one clip 8, 9 respectively on their free ends to suspend items of clothing from. Each clip has two clamping jaws 10, 11, which are held closed by the force of a spring in a *per se* known way and can thus carry an item of clothing by holding it between them.

[0014] The jaws 10, 11 are opened by pressing together lever-type regions 12, 13 by swivelling them around a common axis 14, see figure 3.

[0015] To ensure that the arms 4, 5 are not moved accidentally within the central suspension device 2 as indicated by the double arrows 6, 7, one engaging device 15, 16 respectively is shown in figures 1 and 2 which locks the position in use. As an alternative, clamping devices, for example, may also be provided.

[0016] The locking device shown in figure 1 has a spring 17 with an engaging pin 18. This engaging pin 18 locks into a corresponding cut-out in the base of the central suspension device 2. The locking device 15 can be

unlocked by pressing down the leaf-type spring 17, thus permitting the arm 4 to be moved within the central suspension device 4. Further cut-outs in the base of the central suspension device permit additional positions to be set for use.

[0017] The locking device 16 according to figure 2 is basically of the same design. However, in this case the locking pin engages in a side wall 19 of the central suspension device 2.

[0018] Alternatively, in addition to the version shown of a spring moved with the arm with engaging pins, the kinematics can also be reversed, i.e. the spring and engaging pin are designed to be permanently fixed in the suspension device.

[0019] In the example of an embodiment according to figures 1 to 3, the arm 4 forms a single piece with the jaw 11 and the lever-type region 13, for example as an injection moulded plastic component. In this case it is practical for the arm with the jaw 11, forming a single component, to be arranged within the profile held by the central suspension device 2, indicated by the dot/dash lines 20 in figures 2 and 3. Projecting components of the clothes hanger 1 are thus avoided according to the invention because the lever-type region 13 is also arranged within the profile lines 20 for the most part, i.e. apart from a small region at the free end of the latter.

[0020] As a consequence of the arrangement of the clips 8 on the free end of the arm 4, the axis 14 can be arranged under the arm 4. As a result of this measure, the clamping jaws 10, 11, are able to grip well down the article of clothing, for example under a band.

[0021] This measure also permits at least the majority of the lever-type regions to be designed so that they end approximately flush with the upper side 21 of the central suspension device 2.

[0022] The rounding of the free ends of the lever-type regions 12, 13, shown in the side view according to figure 1, also helps to prevent hooking, for example into adjacent hangers.

[0023] Rounding is also used in the remainder of the design of the lever-type region, see the top view according to figure 2, especially towards the free end, on both sides in this case, to counteract the possibility of becoming hooked or damage to adjacent items of clothing.

[0024] In principle, the arms 4, 5 can be designed with identical clips 8, 9. However, a mirror-image design is preferred, such that because of the arrangement of jaws and, if present lever-type regions on a flat side 19, see figure 2, these lie within the profile of the central suspension device indicated by the line 20. This therefore simultaneously creates one flat side.

[0025] In the example of an embodiment of a clothes hanger 25 according to the invention as shown in figures 4 to 6, box-shaped, optionally I-shaped profiled arms 26, 27 with clips 28, 29 arranged on the end sides are guided within a central suspension device 30 with hook 31. Figure 6 shows that here too an arrangement of a jaw 32 and a lever-type region 33 is provided within the pro-

file held by the central suspension device 30.

[0026] To open the jaws 32, 34, the lever-type region 35 is pressed down against the lever-type region 33 and opens the jaw 34 opposite the jaw 32 by swivelling around the axis 36. This axis 36 is arranged substantially in a plane held by the side surface 37 of the central suspension device 30 and under the underside 38.

[0027] No engaging or clamping device is shown in figures 4 to 8, for example, a clamping spring or similar. However, the position for use shown in figures 7 and 8 is such that unintentional or accidental sliding of the arms 40, 41 is excluded for the most part.

[0028] A representation of the clothes hanger 25 has been selected in figures 7 and 8 in which the arms 40, 41 are inserted into the central suspension device 30 for the most part. The maximum lengthwise extension of the central suspension device 30 also determines the maximum length of the arms 40, 41.

[0029] Guidance within the central suspension device is basically of secondary importance. The arms can be routed one over the other or optionally side by side. Alternatively, it is equally possible to design the central suspension device as a simple box profile, in which arms of the same design are then inserted. Their length is then a maximum of approximately half the maximum lengthwise extension of the central suspension device.

Claims

1. A clothes hanger including a central suspension device, (2, 30), two arms (4, 5 : 26, 27), carried by and movable with respect to said central suspension device (2, 30), and two retainers (8, 9 : 28, 29) respectively arranged one on each arm, **characterised in that** each retainer (8, 9 : 28, 29) is permanently connected to the arm (4, 5 : 26, 27) and **in that** each arm (4, 5 : 26, 27) can move lengthwise in the central suspension device (2, 30).
2. A clothes hanger (1) with a central suspension device (2) and with two clips (8, 9) arranged on arms (4, 5) which can move in respect of the central suspension device, with two jaws (10, 11) respectively, clamping against each other using spring force, which can be opened by pressing together two lever-type regions, **characterised in that** each clip (8, 9) is permanently connected to an arm (4, 5) and that the arm (4, 5) can move in the central suspension device (2) within its lengthwise extent.
3. Clothes hanger according to claim 2, **characterised in that** at least one position can be fixed in which the arms (4, 5) are used.
4. Clothes hanger according to claim 2 or claim 3, **characterised in that** there is a locking device (15, 16) which fixes the position for use.
5. Clothes hanger according to claim 2 or claim 3, **characterised in that** there is a clamping device which fixes the position for use.
6. Clothes hanger according to any one of claims 2 to 5, **characterised in that** one arm (4), one jaw (11) and one lever-type region (13) respectively are formed as a single component.
7. Clothes hanger according to any of claims 2 to 5, **characterised in that** an arm (4) with a jaw (11) formed as a single component is accommodated within the central suspension device (2).
8. Clothes hanger according to claim 6, **characterised in that** the lever-type region (13) is arranged at least in part within the central suspension device (2).
9. Clothes hanger according to any of claims 2 to 8, **characterised in that** an axis of rotation (14) for the clamping jaws (10, 11) is arranged below the arm (4).
10. Clothes hanger according to any of claims 2 to 9, **characterised in that** an axis of rotation (36) of the clamping jaws (32, 34) is arranged substantially within a plane held by one side surface (37) of the central suspension device (30).
11. Clothes hanger according to any of claims 2 to 9, **characterised in that** the two lever-type regions (12, 13) of a clip (8) are rounded towards the free end when seen in a top view.

